“Interoperability” How the term is viewed from different perspectives

- Presented by: David Haines, P.E
  Kimley-Horn and Associates

Kimley-Horn
and Associates, Inc.

Overview

- Owner's perspective
- Contractor's / Manufacturer's perspective
- Lessons Learned
- Using National Standards
- Design Considerations

Kimley-Horn
and Associates, Inc.

Owner's Perspective

- How would you define interoperability?
- What do you expect to get?

Kimley-Horn
and Associates, Inc.

Owner's Perspective

- Possible Answers:
  - All components work together as one system
  - Equipment is Non-Proprietary
  - Equipment can be provided by multiple manufacturers
  - "Plug & Play"
  - Easier to operate and maintain
  - Lower future upgrade cost
  - Enhanced flexibility to expand/grow

Kimley-Horn
and Associates, Inc.

Contractor's / Manufacturer's Perspective

- "We have done interoperability testing."
- "Yes, our equipment works with other manufacturer's equipment."
- "We have deployed open architecture systems using components from different manufacturers."
- "Our equipment meets National Standards"

Kimley-Horn and Associates, Inc.

Lessons Learned

- SONET Deployment Example
- WDM Example
- Layer-2 Switch Example
- NTCIP Example

Kimley-Horn
and Associates, Inc.

Using National Standards

- Does Referencing Standards solve all the problems?

Kimley-Horn
and Associates, Inc.

Using National Standards

- Maybe if:
  - They are referenced properly to a sufficient level of detail.
  - All the functionality you are looking for is covered by standards.
  - The industry supports the standards

Kimley-Horn
and Associates, Inc.

Using National Standards

- Typically not because:
  - Owner may want a specific function that is not covered by the standard.
  - The contractor is typically not required to test interoperability as part of acceptance testing
  - The industry may be implementing the standards differently (MPEG-2 example)

Kimley-Horn
and Associates, Inc.

Design Considerations

- Clearly define all functional requirements
- Be specific about which functions are covered by standards and which functions are not
- Define the acceptance testing requirements
- Do NOT require something that can not be tested
- Avoid using the term “Interoperable” in contract documents without clearly defining what functions you are referring to

Kimley-Horn
and Associates, Inc.

Thank you.

Kimley-Horn
and Associates, Inc.